

## INDEX

- ammunition requirements, 5-1, 5-2 (table)
- battlefield identification, 6-19
  - primary recognition cues, 6-19
    - BRDM-2 reconnaissance vehicle, 6-21
    - M1 Abrams main battle tank, 6-19
    - M2/M3 Bradley fighting vehicle, 6-20
    - T-62 tank, 6-19
- caution zone, A-1
- characteristics, 1-1
  - capabilities, 1-1
  - mobility, 1-1
- clearance requirements, 2-7, 2-10 (illus), G-3 (illus)
- combat vehicle identification, I-1—I-6
- components, 1-3 (illus), 1-5 (illus)
  - internal, 1-8, 1-9
    - aft section, 1-10
      - activator control system, 1-11
      - flight control surfaces, 1-11
      - launch motor, 1-11
      - thermal beacon, 1-11
      - wire spools, 1-10
      - zenon beacon, 1-11
    - center section, 1-10
      - batteries, 1-10
      - flight motor, 1-10
      - gyroscope, 1-10
    - front section, 1-9
      - electronics, 1-9
      - warhead, 1-9
    - launch container, 1-12
  - configurations, 1-2
    - M220A1, 1-2
    - M220A2, 1-2
    - missile, 1-3—1-6
  - crew cuts, 5-28 (table)
  - DA Form 7331-R (Scorecard for Gunners' Skill Test, Part 1), 5-10 (illus)
  - DA Form 7332-R (Scorecard for Gunners' Skill Test, Part 2—Carrier-specific tasks), 5-11 (illus)
  - DA Form 7333-R (TOW Gunnery Tables 1 and 2, Individual Gunnery Practice and Qualification Scorecard), 5-17 (illus)
  - DA Form 7334-R (TOW Gunnery Tables 3 and 4, Advanced Gunnery Practice and Qualification Scorecard), 5-19 (illus)
  - DA Form 7335-R (TOW Gunnery Tables 5 and 6, Baseline TFFT Gunnery Practice and Qualification Scorecard), 5-26 (illus)
  - DA Form 7336-R (TOW Gunnery Table 7, Squad Gunnery Practice Scoresheet), 5-30 (illus)
  - DA Form 7337-R (TOW Gunnery Table 8, Squad Gunnery Qualification Scoresheet), 5-31 (illus)
  - DA Form 7338-R (TOW Gunnery Table 9, Section Gunnery Practice Scoresheet), 5-36 (illus)
  - DA Form 7339-R (TOW Gunnery Table 10, Section Gunnery Qualification Scoresheet), 5-37 (illus)

- DA Form 7340-R (TOW Gunnery Table 11, Platoon Gunnery Practice Scoresheet), 5-42 (illus)
- DA Form 7341-R (TOW Gunnery Table 12, Platoon Gunnery Qualification Scoresheet), 5-43 (illus)
- danger zone, A-1
- destruction
  - methods, 2-13
    - burning, 2-13
    - explosives, 2-13
    - gunfire, 2-13
    - mechanical, 2-13
  - of encased missiles, 2-11
    - by explosives, 2-11 (illus)
    - by gunfire, 2-12
    - by launching, 2-11
  - of TOW weapon systems, 2-10, 2-12
  - priority of, 2-13
- directed-energy weapons, F-12
- electro-optical countermeasures, 6-22
  - TOW 2 launcher, 6-23
  - TOW launcher, 6-22
- expedient range card, E-10 (illus)
- exposure time, 6-4
  - binocular method, 6-5 (illus)
  - daysight tracker method, 6-4, 6-5 (illus)
  - nightsight method, 6-5
- fighting positions, D-1
  - camouflage nets, D-5
  - dismounted TOW, D-1, D-2 (illus), D-3 (illus)
  - mounted TOW, D-3, D-4 (illus)
- fire commands, 6-6—6-9
  - additional commands, 6-8
  - alert, 6-6
  - commands for driver, 6-9
  - correcting errors, 6-9
  - execution, 6-8
  - range, 5-8
    - binoculars, 5-8
    - naked eye, 6-8
    - reference materials, 6-8
  - repeating commands, 6-9
  - target description, 6-6, 6-7 (illus)
  - target direction, 6-7
    - prominent features, 6-8
    - target reference point, 6-7
  - type of missile, 6-6
- fire control measures, 6-1
  - target engagement determination, 6-1
    - binocular method, 6-3 (illus)
    - exposure time, 6-4
      - binocular reticle method, 6-5 (illus)
      - daysight tracker method, 6-4, 6-5 (illus)
      - nightsight method, 6-5
      - nightsight method, 6-1, 6-2 (illus)
    - target tracking, 6-9
  - firing angle limitations, A-3
    - M901/M901A1 ITV, A-5 (illus)
    - M966-mounted TOW, A-4 (illus)
    - tripod-mounted TOW, A-3
  - firing limitations, 2-4, 3-28
    - clearance requirements, 2-7, 2-10 (illus)
    - from bunkers and buildings, 2-7
    - in windy conditions, 2-7
    - M243 smoke grenade launcher, 4-26
    - over electrical lines, 2-7
    - over water, 2-4—2-7
    - through smoke and fires, 2-7
  - firing positions
    - tripod-mounted TOW-TOW 2, 2-1
- Gunners' Skill Test, 5-1, 5-4, 5-7, 5-10 (illus), 5-11 (illus)
  - Part 1, 5-8
  - Part 2, M2/M3 BTV, 5-9
  - Part 2, M901 ITV, 5-8
  - Part 2, M966, 5-8

- gunnery training, 6-14
- hangfire, 3-17
- helicopter engagement, 6-13
  - gunnery training, 6-14
  - operational concept, 6-13
- HMMWV interchangeable mount system, 3-6
- improved armor technology, F-12
  - applique, F-13
  - composite, F-13
  - countermeasures, F-13, F-14 (table)
  - laminated, F-13
  - reactive, F-12
- infantry antiarmor
  - counter-countermeasures, F-11
  - AGS-17 automatic grenade launcher, F-11
  - artillery, F-11
  - battlefield obscurants, F-11
  - combined arms, F-12
  - direct fire, F-11
  - helicopters, F-11
  - lasers, F-11
  - reconnaissance, F-11
- leader cuts, 5-33 (table), 5-39 (table)
- limited visibility conditions, 6-14
  - battlefield identification, 6-18
  - compensation for target appearance variables, 6-17
  - primary recognition cues, 6-19
    - BRDM-2 reconnaissance vehicle, 6-21
    - M1 Abrams main battle tank, 6-19
    - M2/M3 Bradley fighting vehicle, 6-20
    - T-62 tank, 6-19
  - target recognition, identification, and engagement, 6-14
    - effects of weather and obscurants, 6-16
    - infrared target signatures, 6-14
    - sources of infrared energy, 6-15
    - temperature and thermal images, 6-15
    - thermal target signatures, 6-14
  - live-fire point calculation, 5-44
- M2/M3 Bradley TOW vehicle
  - dismounting
    - M220A1, J-1
    - M220A2, J-3
  - remounting
    - M220A1, J-2
    - M220A2, J-5
  - stowing equipment, J-7 (illus), J-8 (illus), J-9 (illus)
- M243 smoke grenade launcher, 4-23, 4-24 (illus)
- M901-series improved TOW vehicle, 4-1 (illus)
  - dismount and remount, 4-15, 4-38—4-41 (table)
  - emergency action, 4-13—4-15
  - evacuation, 4-16
  - immediate action, 4-12, 4-3—4-37 (table)
  - individual duties and responsibilities, 4-2
  - M60 machine gun operation, 4-16
  - M243 smoke grenade launcher operation, 4-23
  - operation procedures, 4-4
    - characteristics, 4-4
  - operational checklist, 4-42, 4-44—4-68 (table)
  - preparation for TOW firing, 4-5—4-9
  - reloading, 4-12
  - squad leader's periscope operation, 4-19, 4-20 (illus)
  - target engagement, 4-17 (illus)
    - adjust fire, 4-17
    - observe fire, 4-17

- procedures, 4-27—4-32 (table)
- sight and aim, 4-17
- troubleshooting, 4-42, 4-69—4-79 (table)
- M966-mounted TOW/TOW 2, 3-1
  - arming, 3-15
  - dismount
    - M220A1, 3-21
      - firing position actions, 3-22
    - M220A2, 3-24
      - firing position actions, 3-26
  - equipment storage, 3-3
    - M220A1, 3-4 (illus)
    - M220A2, 3-5 (illus)
  - firing limitations, 3-28
  - HMMWV interchangeable mount system, 3-6 (illus)
  - immediate action, 3-17
    - hangfire, 3-17
    - misfire, 3-18
  - individual duties and responsibilities, 3-1
  - loading, 3-14
  - preparation for TOW firing, 3-7—3-13
  - remount
    - M220A1, 3-23
      - firing position actions, 3-23
      - remount actions, 3-24
    - M220A2, 3-26
      - firing position actions, 3-27
      - remount actions, 3-27
  - target engagement, 3-16
  - unloading, 3-16
- malfunctions
  - dud, 2-4
  - erratic flight, 2-4
  - hangfire, 2-2, 3-17
  - misfire, 2-2
- MILES, B-1
  - capabilities, B-3
  - components, B-1
  - features, B-3
  - safety precautions, A-4, B-3, B-4 (illus)
- misfire, 3-18
- missile
  - configurations, 1—1-6
  - handling precautions, A-3
  - identification, 1-7 (illus)
  - preparation, 2-2
  - tracking and steering, 1-12
- missile guidance set (MGS), 3-3, 3-6, 3-10, 3-20 (illus)
- mission, enemy, terrain, troops, and time available (METT-T), 5-6
- mission-essential task list (METL), 5-2
- multipurpose range complex (MPRC), 5-25
  - dimensions and layouts, C-1, C-3 (illus), C-4 (illus)
  - heavy, C-1, C-3 (illus)
  - light, C-1, C-4 (illus)
  - safety precautions, C-2
- nuclear, biological, and chemical (NBC), 6-14
- operation procedures
  - M901-series ITV, 4-4
  - M966-mounted TOW/TOW2, 3-3
  - tripod-mounted TOW-TOW2, 2-1
- operational checklist, 4-42
- precautions
  - missile handling, A-3
  - safety, A-1—A-3
    - caution zone, A-1
    - danger zone, A-1
    - MILES, A-4, B-3, B-4 (illus)
    - TFTT, A-7, B-9
    - TGT, A-6, B-6
  - sighting and aiming, A-3
- preventive maintenance checks and services
  - tripod-mounted TOW/TOW 2, 2-1

- safety precautions
  - caution zone, A-1
  - danger zone, A-1
  - MILES, A-4, B-3, B-4 (illus)
  - MPRCs, C-2
  - TGT, A-6, B-6
  - TFTT, A-7, B-9
- sequence of operation, 1-8, 1-12, 1-13 (table)
- sighting and aiming precautions, A-3
- squad leader's periscope, 4-19
- standard range card, E-1
  - expedient, E-10 (illus)
  - description, E-1
  - preparation procedures, E-2 (illus), E-2 (illus), E-3, E-4 (illus), E-5, E-6 (illus), E-7 (illus), E-8 (illus)
- support requirements, 5-24, 5-33, 5-39
- system checkout
  - tripod-mounted TOW/TOW2, 2-1
- target engagement, 6-14
  - determination, 6-1
  - helicopters, 6-13
  - M60 machine gun, 4-17 (illus)
  - M220A1, 6-10, 6-12 (illus)
  - M220A2, 6-12
  - M901, 4-10
  - M966, 3-16
- target recognition, 6-14
- target signature
  - infrared, 6-14
  - thermal, 6-14
- thermal beacon, 1-11
- threat counterpart systems, F-1
  - armored vehicles, F-1, F-2 (table)
    - BMP-2, F-2, F-3 (illus)
    - T-64B, F-2, F-3 (illus)
    - T-72M1, F-2, F-3 (illus)
    - T-80, F-4 (illus)
  - infantry antiarmor weapons, F-4
    - AT-2 Swatter, F-4, F-5 (illus)
    - AT-3 Sagger, F-4, F-5 (illus)
    - AT-4 Spigot, F-5, F-6 (illus)
    - AT-5 Spandrel, F-6 (illus)
    - AT-6 Spiral, F-7 (illus)
    - AT-7 Saxhorn, F-7, F-8 (illus)
    - AT-8 Songster, F-8, F-9 (illus)
  - infantry armor countermeasures, F-9
    - AGS-17 automatic grenade launcher, F-10
    - artillery, F-10
    - battlefield obscurants, F-10
    - combined arms, F-10
    - direct fire, F-10
    - helicopters, F-10
    - lasers, F-10
    - reconnaissance, F-9
- TOW
  - capabilities, 1-1
  - mobility, 1-1
- TOW Field Tactical Trainer, B-6
  - assembly and operation, B-9
  - components and features, B-6, B-7 (illus), B-8 (illus)
  - safety precautions, A-7, B-9
- TOW Gunnery Tables 1 and 2, Individual Gunnery Practice and Qualification Scorecard (DA Form 7333-R), 5-13, 5-16, 5-17 (illus)
  - conduct of training, 5-14
  - personnel duties, 5-14
  - scoring, 5-14
  - sustainment training, 5-14
- TOW Gunnery Tables 3 and 4, Advanced Gunnery Practice and Qualification Scorecard (DA Form 7334-R), 5-16, 5-19 (illus) 5-22
  - conduct of training, 5-18
  - personnel duties, 5-18
  - scoring, 5-18, 5-20
  - sustainment training, 5-22
  - verification, 5-16, 5-18

- TOW Gunnery Tables 5 and 6,
  - Baseline TFFT Gunnery Practice and Qualification Scorecard (DA Form 7335-R), 5-23, 5-25, 5-26 (illus)
  - conduct, 5-24
  - scoring, 5-24
  - support requirements, 5-24
  - trainer/evaluator guidelines, 5-25
- TOW Gunnery Table 7, Squad Gunnery Practice Scoresheet,
  - (DA Form 7336-R), 5-25, 5-30 (illus)
  - conduct, 5-25
  - scoring, 5-27
- TOW Gunnery Table 8, Squad Gunnery Qualification Scoresheet,
  - (DA Form 7337-R), 5-28, 5-31 (illus)
- TOW Gunnery Table 9, Section Gunnery Practice Scoresheet
  - (DA Form 7338-R), 5-32, 5-36 (illus)
  - conduct, 5-32
  - scoring, 5-32
  - support requirements, 5-33
  - trainer/evaluator guidelines, 5-34
- TOW Gunnery Table 10, Section Gunnery Qualification Scoresheet
  - (DA Form 7339-R), 5-34, 5-37 (illus)
- TOW Gunnery Table 11, Platoon Gunnery Practice Scoresheet
  - (DA Form 7340-R), 5-38, 5-42 (illus)
  - conduct, 5-38
  - scoring, 5-38
  - support requirements, 5-39
  - trainer/evaluator guidelines, 5-40
- TOW Gunnery Table 12, Platoon Gunnery Qualification Scoresheet
  - (DA Form 7341-R), 5-40, 5-43 (illus)
- TOW Gunnery Trainer, 5-4, 5-13, B-4
  - assembly and operation, B-6
  - components, B-4 (illus), B-5 (illus)
  - preparation for gunner practice, 5-14
  - safety precautions, A-6, B-6
- TOW/TOW 2
  - M966-mounted, 3-1
  - tripod-mounted, 2-1
  - TOW training, 5-1
    - assessment and planning, 5-1
    - commander's responsibilities, 5-1
    - sustainment, 5-2, 5-3 (illus)
    - guidelines 5-2, 5-4
    - gunnery tables, 5-4, 5-5 (table)
  - collective, 5-6
  - conduct of unit, 5-5
  - devices, B-1
  - field tracking, 5-46
  - Phases, 5-7
    - Phase I: Individual, 5-7
    - Phase II: Squad, 5-23
    - Phase III: Section, 5-32
    - Phase IV: Platoon, 5-38
  - strategy, 1-12
  - tips, G-1—G-5
  - tracking and steering, 1-12
  - training devices, B-1
  - MILES, B-1
  - TGT, B-4 (illus), B-5 (illus)
  - TFFT, B-6
  - train-the-trainer program, H-1
    - command benefits, H-2
  - METL, H-1
  - objectives, H-1
  - trainer assessment, H-2
  - trainer certification, H-5
  - training tasks, H-2—H-5
  - tripod-mounted TOW/TOW 2, 2-1
    - operation procedures, 2-1
    - preventive maintenance checks and services (PMCS), 2-1
    - preparation of missiles, 2-2
    - selection of firing positions, 2-1, 2-2
    - system checkout, 2-1
- zenon beacon, 1-11